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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application of

Inventor: Wilhelmus Hendrikus Alfonsus Bruls et al. Atty. Docket No. NL000031

Serial No.: 09/773,156

Group Art Unit: 2613

Filed: January 31, 2001

Examiner: Allen C. Wong

Title: VIDEO ENCODING AND DECODING

Commissioner for Patents
Alexandria, VA 22313-1450

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On: December 16, 2005

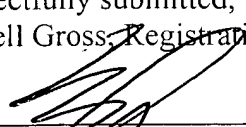
By: 

Sir:

In response to the Office Action dated November 14, 2005, the Appellant respectfully requests reinstatement of the Appeal. In the present Office Action, it is stated that a new ground of rejection has been made. Therefore, the Appellant respectfully exercises his right to request reinstatement of the Appeal, as allowed under 37 CFR 1.193(b)(2)(ii).

The Commissioner is hereby authorized to credit any overpayment or charge any fee (except the issue fee) to Account No. 14-1270.

Respectfully submitted,
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SUPPLEMENTAL APPEAL BRIEF
Serial No.: 09/773,156

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In re the Application

Inventor : **Wilhelmus Hendrikus Alfonsus Bruls et al.**
Application No. : **09/773,156**
Filed : **January 31, 2001**
For : **VIDEO ENCODING AND DECODING**

SUPPLEMENTAL APPEAL BRIEF

On Appeal from Group Art Unit 2613

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(Name of Registered Rep.)

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I. REAL PARTY IN INTEREST

The Real Party in Interest is as presented in Appellant's Appeal Brief filed August 29, 2005.

II. RELATED APPEALS AND INTERFERENCES

The Status of the Related Appeal and Interferences is as presented in Appellant's Appeal Brief filed August 29, 2005.

III. STATUS OF CLAIMS

The Status of the Claims is as presented in Appellant's Appeal Brief filed August 29, 2005.

IV. STATUS OF AMENDMENTS

The Status of the Amendments is as presented in Appellant's Appeal Brief filed August 29, 2005.

Subsequent to the filing of Appellant's Appeal Brief, a new Office Action, dated November 14, 2005, was entered into the record. The Office Action stated that in Appellant's arguments presented in the Appeal Brief were fully considered and deemed persuasive. The rejection of the claims was withdrawn. However, new grounds of rejection were presented which rejected claims 1-12. The new grounds of rejected cited the Yonemitsu reference, which was cited in prior Office Actions, in view of the new reference Sazzad.

In response to the new grounds of rejection, Appellant, pursuant to MPEP 1208.02, requests that the Appeal be reinstated and submits herewith this Supplemental Appeal Brief presenting arguments to overcome the rejection of the claims in the Instant Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The Summary of Claimed Subject Matter is as presented in Appellant's Appeal Brief filed August 29, 2005.

VI. GROUND FOR REJECTION TO BE REVIEWED ON APPEAL

This issue in the present matter is whether:

1. Claims 1-12 are rendered unpatentable under 35 USC §103(a) over Yonemitsu (USP no. 5,485,279) in view of Sazzad (USP no. 6,122,321).

VII. ARGUMENT

1. 35 USC §103 Rejection of claims 1-12

The rejection of claims 1-12 is in error because the references fail to show a limitation cited in the independent claims 1, 6, 11 or 12. The remaining claims depend from the independent claims.

**Difference between the Claimed Invention
and the Cited References**

The instant invention, as recited in claim 1, which is typical of the remaining independent claims, recites:

1. A video encoder for encoding images in a first resolution mode with reference to a reference image having said first resolution, the encoder comprising:
a memory having the capacity for storing said reference image with said first resolution; and
control means:
for selectably encoding said images in a second, lower resolution mode with reference to two reference images having said second resolution, and

for storing said two reference images with
the second resolution in said memory.

Yonemitsu generally teaches producing a lower resolution image from the combination of a high-resolution image that is dynamically reduced and a single prior stored lower resolution image. This is shown in Figures 14, 16, 18 and 20; Figure 20 is referred to in the instant Office Action and again in the Advisory Action.

Figure 14 illustrates an encoding circuit wherein a one-quarter resolution image is formed from a current high-resolution image that is reduced in resolution (117) and a prior high-resolution image (111,112) that was reduced in resolution. The prior high-resolution image is stored in a full-resolution image memory and the lower resolution image is stored in the lower-resolution image memory. In this illustrated encoder, the lower-resolution image is formed from two high-resolution images that are both resolution reduced; only one of the lower resolution images is stored in the low-resolution image memory.

Figure 16 illustrates an encoding circuit wherein a lower resolution image, i.e., $\frac{1}{4}$ resolution, is produced as a reduced resolution image of a high-resolution image and a lower resolution image, which was stored in a low resolution memory 121. (see col. 20, lines, 2-8, which state, “[d]ata C9 constitutes mismatching error data representing the difference between 4X4 predicted image data ... included in a predetermined portion of the predicted image data produced from a high-resolution data stored in a full-resolution frame memory and 4X4 predicted image data groups produced by processing quarter-resolution data stored in a quarter-resolution frame memory.”). In this illustrated encoder a lower resolution image is produced from a reduction of a full-resolution image and a stored lower resolution image. Only one stored lower resolution image is used in the determination of the lower resolution image.

Figures 18 and 20 also illustrate encoders wherein a high-resolution image, stored in a full-resolution memory, is resolution-reduced (component 112) and combined with a lower resolution image stored in a reduced resolution memory to produce a lower resolution image. Again only one stored lower resolution image is used in the determination of the lower resolution image.

Thus, Yonemitsu teaches producing a lower resolution image from a high-resolution image that is dynamically reduced and a single stored lower resolution reference image.

Sazzad teaches methods and apparatus for reducing the complexity of inverse quantization operations using improved techniques for performing inverse quantization operations. In one embodiment of the Sazzad device, the "resolution control module is responsible for controlling the decoding of HDTV images such that they are downsampled and displayed at a maximum resolution equivalent to SDTV resolution. This allows HDTV images to be decoded using the same or approximately the same amount of memory required to implement an SDTV decoder. In the same embodiment the resolution control module controls the downsampler so that SDTV images are not downsampled but, instead, decoded and displayed at full resolution" (see col. 15, lines 1-11). Sazzad discloses that the resolution control module controls circuits to "1) perform less computationally intensive processing operations on image areas which will not be displayed or which are further away from the image center of interest than other image portions and/or to 2) discard data, not process, and/or to reduce the amount of data used to represent image areas which will not be displayed or which are furthest away from an image's center of interest" (see col. 15, lines 29-35). Sazzad provides an example of the processing SDTV images, which are displayed at full resolution, wherein "portions of the image at the image's center of interest may not be downsampled at all, portions of the image at a first distance away from the center of interest may be downsampled at a first rate, and portions of the image furthest away from the center of interest may be downsampled at a second rate which is greater than the first downsampling rate" (see col. 15, lines 48-58).

Hence, Sazzad teaches a system that provides for decoding HDTV or SDTV signals wherein portions of the image are decoded at different rates to reduce the complexity and computational effort needed for inverse quantization.

The Combination of Yonemitsu and Sazzad
Fails to Render Obvious the Claimed Invention

It was held in *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) that in order to establish a *prima facie* case of obviousness, three basic criteria must be met;

1. there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the reference teachings;
2. there must be a reasonable expectation of success; and
3. the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure.

With regard to the invention as recited in claim 1, Appellant respectfully submits that the basic criteria have not been met, thus a *prima facie* case of obviousness has not been set forth.

More specifically, Yonemitsu fails to disclose "for storing said two reference images with the second resolution in said memory" as is recited in the claims.

Contrary to the statements made in the Instant Office Action with regard to the memory unit 430 in Figure 4, Sazzad teaches reducing complexity by performing desampling at different rates based on the distance from an image center of interest and fails to teach or suggest "storing said two reference images with the second resolution in said memory."

Hence, one would not be motivated to combine the teaching of Yonemitsu and Sazzad to develop the novel features of the instant invention as neither Yonemitsu nor Sazzad teach storing the two reference images, as is recited in the claims. Hence, even if there were some motivation to combine the teachings of Yonemitsu and Sazzad, the combination would not produce the invention recited in claim 1, for example. Rather the

combined device would produce a device that downsamples images by using different rates based on the distance from an image center of interest. For at least this reason, the combination of Yonemitsu and Sazzad fails to recite all the elements recited in the claims.

Appellant further submits that the Manual of Patent Examining Procedure (MPEP), Eight Edition, Rev. 2, May 2004, also provides appropriate instruction by which the instant Appeal should be judged. MPEP §2143.01 provides in the subsections entitled:

Fact That The Claimed Invention Is Within The Capabilities Of One Of Ordinary Skill In The Art Is Not Sufficient By Itself To Establish *PRIMA FACIE* Obviousness.

“A statement that modification of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references.” *Ex parte Levensgood* 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP §2143.01, p. 2100-131.

In this case, the Office Action states that it would be obvious to combine the teachings of the cited references "for reducing costs of producing video decoders ... and as well in other applications pertinent to other television receivers ... in an efficient manner for display."

However, as shown the combined device fails to disclose all the elements claimed and for at least the arguments presented herein, Appellant respectfully submits that the

instant invention, as recited in claim 1, for example, is not rendered obvious by the combination of Yonemitsu and Sazzad.

With regard to independent claims 6, 11 and 12, these claims were rejected for the same reason stated in rejected claim 1. Claims 6, 11 and 12 include subject matter similar to that recited in claim 1. Hence, for the remarks made with regard to claim 1, which are reasserted, as if in full, herein, Appellant respectfully submits that a *prima facie* case of obviousness has not been set forth with regard to these claims.

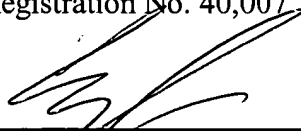
With regard to the remaining claims, these claims depend from the independent claims. Appellant respectfully submits that these claims are allowable at least for their dependence upon allowable base claims, without even contemplating the merits of the dependent claims, as it was held in *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (if an independent claim is non-obvious under 35 U.S.C. §103(a), then any claim depending therefrom is non-obvious).

VIII. CONCLUSION

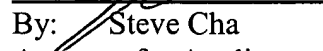
In view of the law and facts stated herein, it is respectfully submitted that the teachings of Yonemitsu and Sazzad fail to render obvious the claimed invention and the burden of showing that the combination of Yonemitsu and Sazzad discloses all of the features, expressly or inherently, recited in the claims has not been met. Therefore, Appellant respectfully requests that this Honorable Board reverse all the outstanding grounds of rejection.

Respectfully submitted,

Russell Gross
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Date: December 16, 2005

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IX . CLAIMS APPENDIX

The Claims are as presented in Appellant's Appeal Brief filed August 29, 2005.